



DEVELOPMENT SERVICES DEPARTMENT  
ENVIRONMENTAL COORDINATOR  
450 110<sup>th</sup> Ave NE., P.O. BOX 90012  
BELLEVUE, WA 98009-9012

**OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS**

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No. 15-113808-LO

Project Name/Address: Thiel Vegetation Management/5120 145th PL SE

Planner: Heidi M. Bedwell

Phone Number: 425-452-4862

**Minimum Comment Period:** July 16, 2015

Materials included in this Notice:

- Blue Bulletin
- Checklist
- Vicinity Map
- Plans
- Other: Critical Areas Report

**OTHERS TO RECEIVE THIS DOCUMENT:**

- State Department of Fish and Wildlife / [Stewart.Reinbold@dfw.gov](mailto:Stewart.Reinbold@dfw.gov); [Christa.Heller@dfw.wa.gov](mailto:Christa.Heller@dfw.wa.gov);
- State Department of Ecology, Shoreline Planner N.W. Region / [Jobu461@ecy.wa.gov](mailto:Jobu461@ecy.wa.gov); [sepaunit@ecy.wa.gov](mailto:sepaunit@ecy.wa.gov)
- Army Corps of Engineers [Susan.M.Powell@nws02.usace.army.mil](mailto:Susan.M.Powell@nws02.usace.army.mil)
- Attorney General [ecyolyef@atg.wa.gov](mailto:ecyolyef@atg.wa.gov)
- Muckleshoot Indian Tribe [Karen.Walter@muckleshoot.nsn.us](mailto:Karen.Walter@muckleshoot.nsn.us); [Fisheries.fileroom@muckleshoot.nsn.us](mailto:Fisheries.fileroom@muckleshoot.nsn.us)

City of Bellevue Submittal Requirements

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**ENVIRONMENTAL CHECKLIST**

10/9/2009

Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call Development Services (425-452-6800) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service).

**INTRODUCTION**

**Purpose of the Checklist:**

The State Environmental Policy Act (SEPA), Chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.

**Instructions for Applicants:**

This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer or if a question does not apply to your proposal, write "do not know" or "does not apply." Giving complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include reference to any reports on studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

**Use of a Checklist for Nonproject Proposals:** *A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.*

For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.

For nonproject actions, the references in the checklist to the words *project*, *applicant*, and *property* or *site* should be read as *proposal*, *proposer*, and *affected geographic area*, respectively.

**Attach an 8 ½" x 11 vicinity map which accurately locates the proposed site.**

Received  
MAY 19 2015

Permit Processing

**BACKGROUND INFORMATION**

Property Owner: Rick and Kandace Holley

Proponent: Jeff Thiel

Contact Person: ~~Benjamin Mark~~

*Jeff Thiel*

(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: ~~23606 101st ave w~~  
~~Edmonds, WA 98020~~

*5215 146th Ave SE*  
*Bellevue, WA 98006*  
*425-246-1174*

Phone: ~~(206) 617-7661~~

Proposal Title: Hilltop Community Vegetation Management

Proposal Location: 5120 145th PL SE Bellevue, WA  
(Street address and nearest cross street or intersection) Provide a legal description if available.

Please attach an 8 1/2" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: Removal of 1 Acer macrophyllum and  Pseudotsuga menziesii
2. Acreage of site: 1.2
3. Number of dwelling units/buildings to be demolished: 0
4. Number of dwelling units/buildings to be constructed: 0
5. Square footage of buildings to be demolished: 0
6. Square footage of buildings to be constructed: 0
7. Quantity of earth movement (in cubic yards): 0
8. Proposed land use: Single Family Residence (unchanged)
9. Design features, including building height, number of stories and proposed exterior materials:  
Does not apply
10. Other

Estimated date of completion of the proposal or timing of phasing:

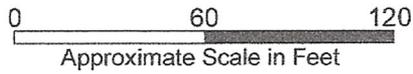
~~12/1/14~~ *3/15/15*

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

no



Base aerial photograph (dated 2009) obtained from King County iMAP (<http://www5.kingcounty.gov/iMAP/>)



EXPLANATION	
	Property Boundary
	Tree A Approximate Location of Tree Removal (see report text for details)

### Site Plan

Geotechnical Consultation - Tree Removal and Steep Slope Hazard Evaluation  
5120 - 145<sup>th</sup> Place SE, Bellevue, Washington

**ICICLECREEK  
ENGINEERS**  
29335 NE 20th Street  
Carnation, Washington 98014  
(425) 333-0093

Scale: As shown  
DESIGNED: ---  
DRAWN: JMS  
CHECKED: BRB  
DATE: 02/04/15

ICE FILE NO.  
**1122-001**  
Figure  
**2**

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Single Family Clearing and Grading in Critical Areas Permit  
Vegetation Management Plan  
Work in Critical Areas Permit

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

N/A

Critical Areas Land Use Permit

Please provide one or more of the following exhibits, if applicable to your proposal. (Please check appropriate box(es) for exhibits submitted with your proposal):

Land Use Reclassification (rezone) Map of existing and proposed zoning

Preliminary Plat or Planned Unit Development  
Preliminary plat map

Clearing & Grading Permit  
Plan of existing and proposed grading  
Development plans

Building Permit (or Design Review)  
Site plan  
Clearing & grading plan

Shoreline Management Permit  
Site plan

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:  Flat  Rolling  Hilly  Steep slopes  Mountains  Other

b. What is the steepest slope on the site (approximate percent slope)?

60%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Loam over Clay medium-grained sandstone

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No

HMB 6/30/2015

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

None

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

No, There will not be significant clearing

Removal of trees

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

0%

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

none

Erosion control per BCC 23.76

## 2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Chainsaw and woodchipper for 8 hrs

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

no

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

none

## 3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

no

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

no

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

none

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

none

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

no

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

no

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

no

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

none

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

none

(2) Could waste materials enter ground or surface waters? If so, generally describe.

no

- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:  
none

#### 4. Plants

- a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other  
 evergreen tree: fir, cedar, pine, other  
 shrubs  
 grass  
 pasture  
 crop or grain  
 wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other  
 water plants: water lily, eelgrass, milfoil, other  
 other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

1 deciduous and 4 conifer trees

- c. List threatened or endangered species known to be on or near the site.

Do not know

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Proposed planting of low to medium growing native vegetation to improve soil stability and habitat

#### 5. ANIMALS

- a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- Birds: hawk, heron, eagle, songbirds, other:  
 Mammals: deer, bear, elk, beaver, other:  
 Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

Do not know

c. Is the site part of a migration route? If so, explain.

Do not know

d. Proposed measures to preserve or enhance wildlife, if any:

Planting of native vegetation known to improve habitat

## 6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

none

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

It could improve solar energy use by allowing more light to reach potential photovoltaic cells

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any:

none

## 7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

no

(1) Describe special emergency services that might be required.

does not apply

(2) Proposed measures to reduce or control environmental health hazards, if any.

does not apply

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b. Noise

- (1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

none

- (2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise from chainsaw and woodchipper from 9-5 on scheduled day of service

- (3) Proposed measures to reduce or control noise impacts, if any:

none

Noise limited per  
BCC 9.08

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties?

Single Family

- b. Has the site been used for agriculture? If so, describe.

no

- c. Describe any structures on the site.

10,870 sf residence

- d. Will any structures be demolished? If so, what?

no

- e. What is the current zoning classification of the site?

Single Family Residential

- f. What is the current comprehensive plan designation of the site?

SF-M

- g. If applicable, what is the current shoreline master program designation of the site?

n/a

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

yes, steep slope on the south end

- i. Approximately how many people would reside or work in the completed project?

3

- j. Approximately how many people would the completed project displace?

0

HMB 6/30/2015

k. Proposed measures to avoid or reduce displacement impacts, if any:

does not apply

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Vegetation management plan including on going maintenance of mitigation plantings

## 9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

0

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

0

c. Proposed measures to reduce or control housing impacts, if any:

does not apply

## 10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

does not apply

b. What views in the immediate vicinity would be altered or obstructed?

Views in the Hilltop neighborhood would be improved

c. Proposed measures to reduce or control aesthetic impacts, if any:

none

**11. Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?  
none
- b. Could light or glare from the finished project be a safety hazard or interfere with views?  
none
- c. What existing off-site sources of light or glare may affect your proposal?  
none
- d. Proposed measures to reduce or control light or glare impacts, if any:  
none

**12. Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity?  
Hiking trail
- b. Would the proposed project displace any existing recreational uses? If so, describe.  
no
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:  
does not apply

**13. Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.  
                     N/A
- b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.
- c. Proposed measures to reduce or control impacts, if any:

**14. Transportation**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.
- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
- c. How many parking spaces would be completed project have? How many would the project eliminate?  
0

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).  
no
- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.  
no
- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.  
0
- g. Proposed measures to reduce or control transportation impacts, if any:  
does not apply

**15. Public Services**

- a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.  
no
- b. Proposed measures to reduce or control direct impacts on public services, if any:  
does not apply

**16. Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.  
 Sewer, water, power, phone available at the site
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.  
 None required/proposed.

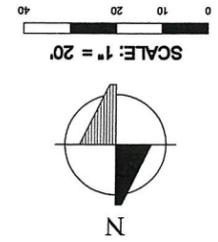
**Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature..... Jeff Thiel ..... Date Submitted..... 3/19/15 .....



PORTION OF THE SE 1/4 OF THE NE 1/4, SEC. 22, TWP. 24 N., RGE. 05 E., W.M.



VERTICAL DATUM  
 NAVD 88

**BENCHMARKS**  
 CITY OF BELLEVUE, BENCHMARK NO. 805  
 FOUND 1 1/2" DIAMETER BRASS DISC IN 4"x4" CONCRETE  
 MONUMENT IN CASE AT THE INTERSECTION OF 151ST AVE  
 SE AND SE 51ST ST.  
 ELEV = 942.07'  
 CITY OF BELLEVUE, BENCHMARK NO. 302  
 FOUND PUNCH MARK IN 1 1/2" DIAMETER BRASS DISC IN  
 CONCRETE MONUMENT IN CASE. BENCHMARK IS THE  
 NORTHERLY OF 2 MONUMENTS AT THE INTERSECTION OF  
 151ST AVE SE AND 152ND PL SE.  
 ELEV = 975.56'

**NOTES**  
 1. INSTRUMENTATION FOR THIS SURVEY WAS A LEICA TOTAL STATION. PROCEDURES  
 USED IN THIS SURVEY WERE FIELD TRAVERSE, WETTING OR EXCEEDING STANDARDS SET  
 BY WAC 332-130-090.  
 2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY  
 MADE IN APRIL, 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL  
 CONDITION EXISTING AT THAT TIME.  
 3. NO EASEMENTS, RESTRICTIONS OR RESERVATION OF RECORD WHICH WOULD BE  
 DISCLOSED BY TITLE REPORT ARE SHOWN.  
 4. NO TEMPORARY BENCHMARKS SET IN AREA OF SURVEY.

**LEGEND**  
 ROCKERY  
 MAJOR CONTOURS  
 MINOR CONTOURS  
**TREE LEGEND**  
 CONIFER TREE  
 FIR  
 DECIDUOUS TREE  
 ALDER  
 CHERRY  
 DECIDUOUS  
 MAPLE  
 EVERGREEN TREE  
 MADRONA

NO.	DATE	REVISION	BY	CHK

GREGORY T. JUNEAU, PLS  
 PROJECT MANAGER  
 MARY H. MCGONNELL, PLS  
 PROJECT SUPERVISOR  
 PROJECT ENGINEER

PROJECT LANDSCAPE ARCHITECT  
 FIRST SUBMITTAL DATE: 04-20-15  
 SCALE: HORIZ. 1"=20' VERT. 1"=20'  
 STAMP NOT VALID  
 UNLESS SIGNED AND DATED

JOB NO. 15-055  
 SHEET NO. 1 OF 1



20300 Woodinville Snohomish Rd NE  
 Suite A • Woodinville, WA 98072  
 p: 425.415.2000 f: 425.486.5059  
 w: triadassociates.net

WASHINGTON  
 CITY OF BELLEVUE,  
 5215 146TH AVE. SE  
**THIEL RESIDENCE**  
 JEFF THIEL  
 TREE LOCATION EXHIBIT  
 FOR

Received  
 MAY 19 2015  
 Permit Processing





February 4, 2015

Jeff Thiel  
5215 – 146<sup>th</sup> Avenue SE  
Bellevue, Washington 98006

Critical Areas Report  
Geotechnical Consultation  
Tree Removal and Steep Slope Hazard  
Evaluation  
5120 – 145<sup>th</sup> Place SE  
Bellevue, Washington  
ICE File No. 1122-001

## 1.0 INTRODUCTION

This Critical Areas Report presents the results of Icodile Creek Engineers' (ICE's) geotechnical consultation regarding the removal of five trees and vegetation replacement (restoration) within a hillside area located at 5120 – 145<sup>th</sup> Place SE within the Hilltop Community in Bellevue, Washington. The tree removal site is shown relative to nearby physical features on the Vicinity Map, Figure 1.

Our services were completed in general accordance with our Confirming Agreement dated December 9, 2014 and were authorized in writing by Jeff Thiel on January 6, 2015.

## 2.0 PROJECT DESCRIPTION

Our understanding of the project is based on conversations with and information provided to ICE by Mr. Thiel and Ben Mark, the project landscape designer, of Salish Restoration Associates (Salish). Mr. Mark provided ICE with a preliminary design plan for tree removal and vegetation replacement, referenced as follows:

- Salish Restoration Associates, November 5, 2014, *Thiel Restoration*.

We understand that Mr. Thiel (5215 – 146<sup>th</sup> Avenue SE) is planning on removing four mature evergreen (Douglas fir) trees and one deciduous (maple) tree within a hillside area on the adjacent property to the west (5120 – 145<sup>th</sup> Place SE – referred to as the "West Property" in this report). Based on our review of the restoration plan, native plant species, including salal, sword fern, flowering currant and Hogan cedar will be planted in the tree removal area.

According to City of Bellevue Critical Areas Mapping (<http://www.nwmaps.net/mapsearch.htm>), the area where tree removal is planned lies within an area of "Steep Slopes." Steep Slopes are defined by the City of Bellevue Land Use Code (LUC) Section VII Geologic Hazard Areas, Chapter 20.25H.120.A.2 as *Slopes of 40 percent grade or more that have a rise of at least 10 feet and exceed 1,000 square foot area*. The Thiel Property, the West Property, the location of the top of the Steep Slope area, and the approximate area of planned tree removal are shown on the Site Plan, Figure 2.

Received

MAY 19 2015

The City of Bellevue requires a "Critical Areas Report" which provides an evaluation of potential slope stability as a result of the tree removal, and recommendations for mitigation as appropriate (subject to this report) in general accordance with Bellevue LUC Chapter 20.25.250.

### 3.0 SCOPE OF SERVICES

The purpose of this geotechnical consultation was to observe the condition of the property from a geotechnical standpoint and to provide our opinion as to the potential affects to slope stability and erosion associated with tree removal. Our specific scope of services included the following:

- Review in-house files and geologic data with respect to subsurface conditions expected at the tree removal site.
- Complete a detailed field reconnaissance of the steep slope area where the tree removal will occur. During our reconnaissance, we will note vegetation types, springs and seepage, and evidence of landsliding.
- Evaluate the stability of the steep slope area regarding the potential affects (slope stability and erosion) associated with the removal of the trees.
- Provide recommendations for tree removal associated with reducing landslide and erosion potential, as needed.

### 4.0 SITE CONDITIONS

Jeff Schwartz of ICE completed a site visit on January 12, 2015 to observe the existing condition of the tree removal site. We also discussed the tree removal and restoration plans with Mr. Thiel and Mr. Mark at that time.

The Thiel Property and the West Property are located along the crest of a west-facing slope overlooking Lake Washington and Mercer Island to the west. Based on our review of the Salish *Thiel Restoration* plan, the tree removal area covers about 5,000 square feet (approximate 0.1 acres) at the south end of the West Property. The West Property is bordered by 145<sup>th</sup> Place SE to the west, the community property and the Thiel Property to the east and similar residential properties to the north and south.

Based on regional geologic mapping by the US Geological Survey (USGS Open-File-Report OF-93-233 – Geologic Map of Surficial Deposits in the Seattle 30' by 60' Quadrangle, Washington," Yount, J.C. et al., 1993), the West Property is underlain by Tertiary-age volcanic and sedimentary rock consisting of medium-grained sandstone. We observed bedrock fragments at the surface of the slope within the West Property. Our site observations are indicative of shallow bedrock and are consistent with the regional geologic mapping. The 1993 USGS geologic map indicates that the Tertiary-age rock extends over the upland area of the site. We expect that the surface of the hillside area where the trees will be removed is mantled with 5 or more feet of weathered soil/bedrock that is easily disturbed and subject to erosion if exposed to surface water runoff.

The observed Steep Slope area within the tree removal area extends down to the west for about 85 feet from an old road grade near the southeast corner of the West Property at about Elevation 990 feet down to a rockery wall along the east side of 145th Place SE at about Elevation 930 feet. According to Mr. Thiel, the old road grade (not accessible at this time) was used as a "fire road."

The old road grade is currently covered with topsoil and scattered ferns. The rockery wall was observed to be up to about 12-feet high and constructed with rock up to about 3-feet in diameter. We observed a

zone of 4-inch diameter ballast rock backfill exposed at the surface behind the rockery wall. The Steep Slope area is a dry, planar slope at about a 60 percent grade with some isolated areas up to about 90 percent grade. The Steep Slope area is vegetated with mature deciduous and evergreen trees with an understory of scattered bushes, fern and salal.

Mr. Thiel plans on removing five trees (Tree A, B, C, D and E) from the Steep Slope area within the West Property. The approximate locations of these trees are shown on Figure 2. Tree A (corresponding to Tree 1409 in the *Thiel Restoration plan*), an approximately 15-inch diameter Douglas-fir (fir) tree, and Tree B (1413), an approximately 20-inch diameter maple tree, are located close to each other near the top of the Steep Slope where a slope of about 90 percent was observed. A large broken branch from the maple tree is in contact with the trunk of the fir about 20 feet above the ground surface; the fir trunk appears to be damaged at this contact. Tree C (1407) is an approximately 16-inch diameter fir tree located mid-slope. Trees D and E (1406 and 1405) are located along the lower portion of the Steep Slope area and are approximately 15- and 25-inch diameter fir trees, respectively. The slope in the vicinity of Trees C, D and E was observed to be about 60 percent grade.

We did not observe evidence of active landsliding (within the area of our reconnaissance) such as bare soil scarps, springs/seepage and/or groups of toppled trees.

The Steep Slope area extends into the adjacent property to the south. Based on our review of historical air photos (King County iMAP and Google Earth), this property was logged/cleared sometime between 1994 and 1998. There is no evidence of landsliding or surface erosion within the cleared Steep Slope area since the area was logged based on our review of more recent aerial photographs and our current site observations.

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 GENERAL**

In our opinion, the five trees may be removed without long-term adverse slope stability or erosion impacts to the slope provided that the tree removal process (operation) and restoration recommendations for tree removal presented later in this report are implemented.

Geologic conditions (shallow bedrock) are favorable with respect to slope stability. In addition, the Steep Slope area is planar surfaced and dry (no evidence of past instability).

The adjacent property to the south also lies within a Steep Slope area, with similar slope grades and likely underlain by similar soils. This area was cleared/logged sometime between 1994 and 1998. We did not observe any evidence that tree removal has adversely impacted the Steep Slopes in that area (favorable performance history).

### **5.2 TREE REMOVAL PRACTICES**

The surficial soils that mantle the tree removal area are relatively well-drained and have a high potential for erosion if excessively disturbed by the tree removal activities. Landsliding is often preceded by adverse erosion. Therefore, if erosion can be reduced or eliminated then the potential for landsliding is also reduced or eliminated.

To minimize ground disturbance, we recommend that the four fir trees be cut in sections from the top down using ropes attached to the cut limb or trunk to allow for lowering the cut tree segment to the ground to reduce ground disturbance. Removal of cut limbs and trunk sections should be accomplished by total or partial suspension to reduce rutting of the ground surface. The trees may be cut off at the ground surface if desired. Leaving a high stump is not necessary with regard to slope stability. The maple tree can also be cut in sections, if practical, otherwise cut at the base of the trunk.

We recommend the following to reduce the potential for erosion:

- Cut tree stumps and root mats should be left in place. Tree stumps should not be treated to promote the decay of the stump until new vegetation has had an opportunity to become established (a time period of about ten years).
- Brush and other trees should not be cut to the extent this is practical.
- Tree removal should be completed such that dragging of the cut tree across the ground surface is reduced.
- Small limbs and tree trunk sections may be left on the slope provided they are cut into pieces (no more than 10-feet long) and scattered on the slope. However, the larger trees will generate a considerable amount of woody debris and most of this material should be removed as "scattering" of this material may not be possible. Mr. Thiel indicated that a woodchipper may be used to break down the trees and spread woodchips along the old road grade above the Steep Slope area.
- Tree trunks left on the slope should be positioned along the slope so that the full length is in contact with the ground surface to promote decomposition of the trunks.
- Excessive disturbance to the ground surface, such as rutting caused by tree removal, should be repaired using hand tools and covered with an appropriate ground cover (e.g., straw mulch or other appropriate erosion control product).
- The tree removal sites should be replanted with suitable tree seedlings, if appropriate, within one year following the tree removal in accordance with an approved vegetation management plan. According to the Salish *Thiel Restoration* plan, the Steep Slope area will be replanted with native plant species, including salal, sword fern, flowering currant and Hogan cedar.

### 5.3 OTHER OBSERVATIONS

The rocky wall at the base of the hillside area is not particularly stable and will likely fail during an earthquake. Under present standards, rockeries should be no higher than 8-feet high and only used when facing a native soil cut.

### 6.0 USE OF THIS REPORT

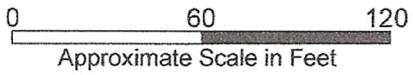
We have prepared this report for use by Jeff Thiel. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

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Base aerial photograph (dated 2009) obtained from King County iMAP (<http://www5.kingcounty.gov/iMAP/>)



EXPLANATION	
	Property Boundary
	Tree A Approximate Location of Tree Removal (see report text for details)

### Site Plan

Geotechnical Consultation - Tree Removal and Steep Slope Hazard Evaluation  
5120 - 145<sup>th</sup> Place SE, Bellevue, Washington

**ICICLECREEK ENGINEERS**  
29335 NE 20th Street  
Carnation, Washington 98014  
(425) 333-0093

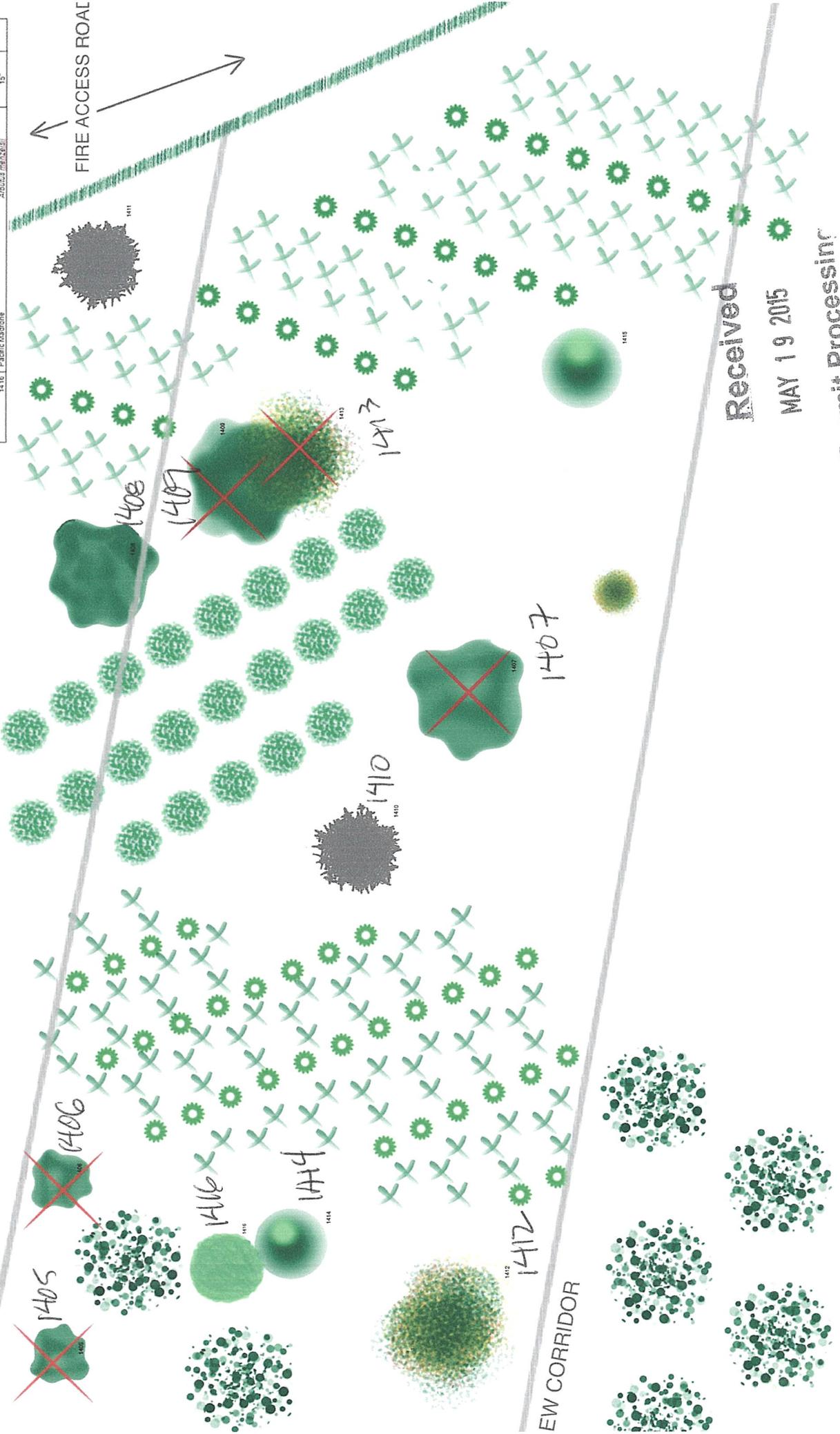
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DESIGNED: ---  
DRAWN: JMS  
CHECKED: BRB  
DATE: 02/05/15

ICE FILE NO.  
**1122-001**  
Figure  
**2**

# PLANTING PLAN

Reference Number	Existing Significant Trees	Size DBH	Action
1405	Douglas Fir	25"	REMOVE
1406	Pseudotsuga mucronata	15"	REMOVE
1407	Douglas Fir	15"	REMOVE
1408	Pseudotsuga mucronata	15"	REMOVE
1409	Douglas Fir	15"	REMOVE
1410	Braked Hazelnut	Multi-Stem	REMOVE
1411	Big Leaf Maple	14" DBH	REMOVE
1412	Big Leaf Maple	20"	REMOVE
1413	Acer macrophyllum	14"	REMOVE
1414	Red Alder	10"	REMOVE
1415	Pacific Madrone	15"	REMOVE

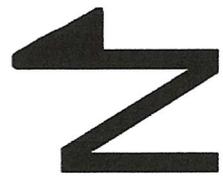
VIEW CORRIDOR



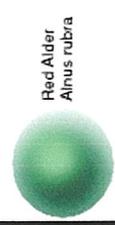
Received

MAY 19 2015

Permit Processing



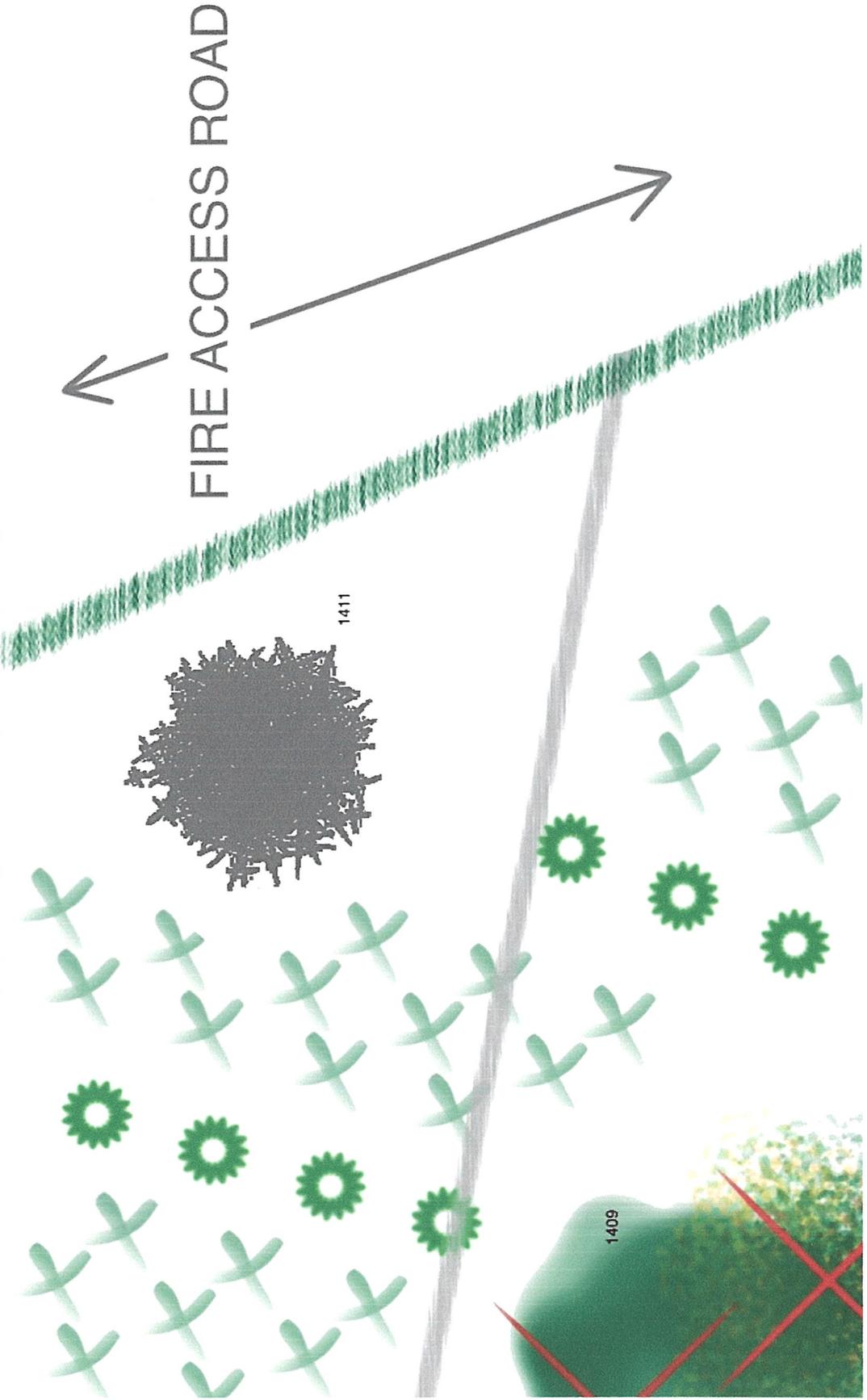
**EXISTING PLANTS**



**TO BE ADDED**



Reference Number	Description	Size DBH	Action
1405	Douglas Fir <i>Pseudotsuga menziesii</i>	25"	REMOVE
1406	Douglas Fir <i>Pseudotsuga menziesii</i>	15"	REMOVE
1407	Douglas Fir <i>Pseudotsuga menziesii</i>	16"	
1408	Douglas Fir <i>Pseudotsuga menziesii</i>	14"	
1409	Douglas Fir <i>Pseudotsuga menziesii</i>	15"	REMOVE
1410	Beaked Hazelnut <i>Corylus cornuta</i>	Multi-stem	
1411	Beaked Hazelnut <i>Corylus cornuta</i>	Multi-stem	
1412	Big Leaf Maple <i>Acer macrophyllum</i>	14" ms	
1413	Big Leaf Maple <i>Acer macrophyllum</i>	20"	REMOVE
1414	Red Alder <i>Alnus rubra</i>	14"	
1415	Red Alder <i>Alnus rubra</i>	10"	
1416	Pacific Madrone <i>Arbutus menziesii</i>	15"	



EXISTING SIGNIFICANT TREES

1409

1411

FIRE ACCESS ROAD